

Student Attitudes Towards Online Learning Amidst the COVID-19 Crisis: A Survey at a Durg, Chhattisgarh Tertiary Care Hospital

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Abstract:

Introduction: Over the past twenty years, the internet has brought about substantial transformations in our everyday routines. Amid the COVID-19 pandemic, educational institutions, including schools and colleges, were compelled to close their doors for an approximate period of two years. The effects of exclusive online teaching, particularly during clinical years, remain inadequately explored. This research delves into the viewpoints of medical students regarding online teaching methods. This study aims to investigate medical students' views on online teaching and propose recommendations derived from our study results.

Method: Between 2016 and 2020, a research initiative took place at a prominent healthcare facility in Durg, Chhattisgarh. Over a month, a cross-sectional study using questionnaires was undertaken among medical students from these specific graduating classes. The intention was to gather insights into the attitudes and viewpoints of these students concerning the effectiveness and reception of online teaching methods. This sampling process was purposefully selected to accurately represent the perspectives of these particular cohorts within the medical undergraduate program.

Results: A pre-tested survey was used to gauge students' viewpoints. A significant portion of the students acknowledged the benefits of online education, such as time saved on commuting (61.2%) and the flexibility it offers (36%). They also highlighted its comfort and cost-effectiveness (27.3%). Conversely, students reported challenges like difficulty in sustained concentration (76.3%), limitations in learning practical aspects online (72.2%), issues with poor internet connectivity (73.2%), and distractions arising from family responsibilities (68.7%).

Conclusion: We should blend online teaching methods with traditional approaches to education, creating new opportunities for better teaching and extending quality education to remote areas.

Keywords: Perception, Online teaching, medical students, COVID-19

INTRODUCTION

Over the past two decades, the internet has fundamentally altered our daily routines and societal structures ^[1]. The outbreak of the COVID-19 pandemic in India precipitated an unprecedented shutdown of educational institutions, compelling schools, and colleges to close their doors for an extended duration of nearly two years. This presented an immense educational quandary, yet it catalyzed the adoption of online teaching as a viable alternative to traditional face-to-face instruction ^[2]. Embracing this method offered manifold advantages, such as the flexibility of accessing education regardless of time or location, enhanced efficiency, and greater affordability. However, alongside these merits, drawbacks also surfaced.

The field of medical education faced a unique predicament during the pandemic. The indispensable need for direct patient contact in educating future medical practitioners remained unfulfilled, emphasizing the limitations of relying solely on textbooks for comprehensive medical knowledge and proficiency ^[1]. Consequently, numerous medical colleges had to shut their doors. Both educators and students found themselves at the precipice of uncharted territory, necessitating an abrupt shift towards online teaching and learning methodologies. This shift manifested in various forms, including virtual classes, live web simulations, webcasts, and online discussion forums ^[2].

However, a significant gap exists in comprehending the full extent of the repercussions stemming from exclusive reliance on online teaching, particularly during the clinical years of medical education. Concerns have arisen about the quality of educational resources generated amidst the pandemic, owing to time constraints and the urgent need to compensate for the lack of practical exposure ^[3]. Against this backdrop, our study delves into the perceptions of medical students regarding the paradigm shift towards online teaching.

METHODS

Study design: Cross-sectional study

Study Period: One month

Study Area: The study was conducted in a tertiary care hospital in Durg, Chhattisgarh.

Study Population: Medical undergraduates from 2016 to 2020 batch.

Inclusion Criteria: Medical undergraduates who gave consent.

Exclusion criteria: Medical undergraduates who did not give consent.

Sampling Method: Convenience sampling.

Statistical Analysis: The calculation of basic percentages was conducted utilizing MS-Excel version 2108. Following the acquisition of explicit consent, a succinct overview of the research was provided to each participating individual. Prior to the commencement of the survey, all participants were duly notified that the gathered data would remain anonymous and solely utilized for academic research objectives. The collation of data regarding the evaluation of medical students' perspectives on online teaching was achieved exclusively through the administration of a comprehensive questionnaire.

The questionnaire consisted of two main parts:

1) Demographic data 2) students' perception towards online teaching.

Information regarding the socio-demographic profile of participants was gathered, encompassing details such as age, gender, residential location (urban or rural), parental occupation, educational background, and income.

The survey encompassed a comprehensive set of 30 distinct inquiries aimed at gauging students' perspectives and attitudes towards the practice of online teaching.

RESULTS:

The investigation took place at a tertiary care hospital in Durg, Chhattisgarh. A survey was distributed via email to 600 graduate medical students, specifically those from the MBBS 2016 to 2020 batches. Among the recipients, 467 individuals participated, yielding a response rate of 77.8%.

The demographic breakdown of the study participants is illustrated in Table 1. Notably, the majority of respondents identified as female (56.1%).

The average age of the participants was 22 years old, with a standard deviation of 1.2. Additionally, a significant portion (65.9%) hailed from urban areas, and 72% of the students' parents reported an income exceeding 5 lakhs. Before the onset of the COVID-19 pandemic, only 9.8% of students were dedicating more than 6 hours to online platforms.

Post-pandemic, this figure surged to 42.7%. Interestingly, 87.7% of the students claimed that they achieved higher grades through offline teaching compared to online instruction. The data further revealed that the majority (85.4%) relied on smartphones for their online learning endeavors.

Table 1: Demographic Characteristics and Insights on Medical Undergraduate Online Teaching/Learning

Sociodemographic Characteristics (n=467)		
Gender	Male	205 (43.9%)
	Female	262 (56.1%)
Age (Years)	Mean± SD	22±1.2
MBBS Year	Batch 2020	127(27.19%)
	Bach 2019	121(25.9%)
	Bach 2018	10(2.1%)
	Bach 2017	107(22.9%)
	Bach 2016	112(23.9%)
Parents Job	Government	234 (50%)
	Private	93 (20%)
	Self employed	140 (30%)
Parents income	Less than 5 lacks	131 (28%)
	5 to 10 lacks	205 (43.9%)
	More than 10 lacks	131 (28.1%)
Native place	Rural	159(34.1%)
	Urban	308 (65.9%)
Resources utilized in internet-based education.	Smart phone	399 (85.4%)
	Laptop	46 (9.8%)
	Tablet/I pad	22 (4.8%)
What was your pre-COVID-19 online platform usage duration?	Less than 2 hours	228 (48.8%)
	2 to 4 hours	165 (35.4%)
	4 to 6 hours	46 (9.8%)

	More than 6 hours	28 (6%)
What is your post-COVID-19 online platform usage duration?	Less than 2 hours	46 (9.8%)
	2 to 4 hours	68 (14.6%)
	4 to 6 hours	154 (32.9%)
	More than 6 hours	199 (42.7%)
In which instructional method did you achieve higher scores?	Online	57 (12.3%)
	Offline	410 (87.7%)

Table 2 displays the outcomes of a survey capturing student perspectives on online education. This survey, conducted through a previously tested questionnaire, gathered data on students' experiences with online teaching and learning. According to the findings, a significant portion of students (62.5%) perceived online teaching as easily engaging. Moreover, they expressed enjoyment (53.6%) and reported ease in asking questions during online sessions (31.7%). The advantages highlighted by students included time savings due to reduced travel (61.2%), the opportunity for self-paced learning (48.7%), flexibility (36%), and the cost-effectiveness and comfort associated with online education (27.3%).

However, challenges emerged as well. The majority of students struggled with maintaining concentration for extended periods (76.3%), learning practical subjects online (72.2%), transitioning from online to offline practical applications (70.9%), dealing with poor internet connections (73.2%), and managing distractions from family members (68.7%).

Most students concluded that online teaching falls short compared to face-to-face instruction. Particularly in the medical field, the online approach cannot adequately replace the traditional method of face-to-face teaching, especially in clinical settings where direct patient contact is integral to learning.

Table 2: Perception of medical students towards online teaching/learning (N=467)

Questions	Agree	Neutral	Disagree
1) The instruction is consistently thought-provoking.	86 (18.5%)	190(40.7%)	191(40.8%)
2) Participation in the lessons comes naturally to me.	292(62.5%)	88(18.8%)	87(18.7%)
3) I feel empowered to pose the inquiries I have in mind.	148(31.7%)	171(36.6%)	148(31.7%)
4)I derive pleasure from the online educational sessions.	108(23.2%)	108(23.2%)	251(53.6%)
5) I wish for a more interactive approach in online teaching.	290(62.2%)	91(19.5%)	86(18.3%)
6) I perceive online teaching to be equally effective as face-to-face instruction.	28(6.1%)	68(14.6%)	371(79.3%)
7) I lean towards online teaching over face-to-face sessions.	233(49.9%)	63(13.4%)	171(36.7%)
8) The instructors are adequately prepared for their teaching sessions.	216(46.3%)	154(32.9%)	97(20.8%)
9) I sense that I am being thoroughly prepared for my future profession.	92(19.6%)	182(39%)	193(41.4%)
10) My internet connection occasionally poses challenges.	342(73.2%)	74(15.9%)	51(10.9%)
11) Online classes have positively impacted my academic pursuits.	58(12.4%)	150(32.1%)	259(55.5%)
12) My technological proficiency has improved due to online classes.	216 (46.3%)	159(34.1%)	92(19.6%)
13) Online classes contribute significantly to my knowledge acquisition.	46(9.8%)	171(36.6%)	250(53.6%)
14) I feel at ease utilizing online educational tools.	200(42.8%)	131(28%)	136(29.2%)
15) I perceive learning to be consistent whether in a physical classroom or at home on the internet.	62(13.2%)	58(12.5%)	347(74.3%)
16) Adhering to an online course's study schedule proves challenging for me.	317(67.9%)	92(19.8%)	58(12.3%)
17) The support and resources provided by my teacher are sufficient.	327(70%)	77(16.4%)	63(13.6%)
18) My teacher actively encourages discussions in our online classes.	225(48.1%)	189(40.5%)	53(11.4%)
19)Clear guidelines for effective communication and interaction in online classes are established by my teacher.	205(44%)	191(41%)	71(14.9%)

20) I encounter difficulty grasping practical aspects through online learning.	337(72.2%)	100(21.5%)	30(6.3%)
21) I am capable of applying the practical knowledge gained online in offline settings.	59(12.7%)	77(16.5%)	331(70.9%)
23) Online teaching is a cost-efficient approach.	286(61.2%)	117(25%)	64(13.8%)
24) Flexibility is a defining feature of online teaching, in my opinion.	127(27.3%)	140(30%)	200(42.7%)
	168(36%)	146(31.2%)	153(32.6%)
25) Online teaching allows for learning at one's preferred pace	227(48.7%)	128(27.5%)	112(23.8%)
26) I encounter distractions from my family while engaged in online classes.	319(68.4%)	83(17.7%)	65(13.9%)
27) Adequate space in my home facilitates attending online classes comfortably.	221(47.4%)	88(18.8%)	158(33.8%)
28) I experience anxiety during online lectures.	128(27.5%)	175(37.5%)	164(35%)
29) Sustaining focus for extended periods during online classes is challenging for me.	357(76.3%)	58(12.5%)	52(11.2%)
30) I often feel perplexed and frustrated by the content delivered in online classes.	105(22.5%)	198(42.5%)	164(35%)

Discussion:

Throughout the COVID-19 outbreak, numerous medical colleges in India opted for online instruction as a substitute for traditional in-person teaching, leading to closures across the board. Before the current pandemic, while online education had already been employed in medical teaching, it's important to note its distinct advantages and disadvantages. Research has shown that obstacles to medical e-learning include time limitations, inadequate technical proficiency, insufficient infrastructure, institutional strategy gaps, and a widespread resistance to substantial changes in educational approaches ^[4].

In this investigation, our focus was to assess medical undergraduates' perceptions of online teaching methods. A significant 85.4% of students utilized smartphones for their online learning needs, whereas a mere 9.8% relied on laptops. These proportions mirror findings documented in several other studies ^[5,6].

Approximately 62.2% of respondents highlighted the increased interactivity of online instruction compared to traditional teaching methods, a trend consistent with findings from multiple other sources [7,8,9].

Regarding adherence to study schedules within online courses, only 12.3% of students reported ease, with a similarly low percentage of 12.4% acknowledging a positive impact on their studies. This minimal impact might be attributed to the widespread physical and psychological effects of the pandemic in India, making concentration challenging for nearly everyone. Furthermore, 53.6% of students expressed difficulties in acquiring knowledge through online teaching, aligning with similar findings observed in various other studies [7]. 48.7% of respondents highlighted the advantage of online education in allowing self-paced learning, while 36% emphasized its flexibility. Given the exclusive online teaching mode during the lockdown when most students were at home, this observation was widely noted in various studies [10,11]. A substantial 74.3% of students expressed that online learning differs from in-person classes, with nearly 80% concurring that face-to-face teaching is more effective than online instruction. Active learning opportunities are limited in online modes, aligning with findings in prior studies [12]. Learning through practical engagement is integral to effective learning experiences, fostering better retention and clarity in comprehending processes. Our research revealed that nearly 70% of students encountered challenges transitioning from online to offline practical applications.

A significant portion, 27.5% of students, expressed anxiety stemming from online lectures, likely due to reduced social interaction and limited teacher engagement, consistent with findings in other studies [13]. Despite the availability of resources in medical education online, our study echoes others, showing that 70% of students received adequate support and materials from their instructors [7,9].

Additionally, 46.3% of students cited session quality issues, potentially influenced by factors like unstable internet connections, family disturbances, and inconvenient tutorial timings. Similar observations were noted in other studies as well [14].

Limitations: The primary constraint of this research was its exclusive focus on a single medical college in Chhattisgarh. Our examination of students' perceptions regarding online teaching encompassed a broad scope without specific exploration into various techniques or methods.

Consequently, we lacked the means to assess and differentiate between the effectiveness of different types of online teaching methods.

Conclusion: Amid the challenging times of the pandemic, embracing online teaching emerged as the optimal choice for sustaining medical education. Integrating this digital approach with traditional teaching methods presents a gateway to expanded educational prospects, especially in distant areas. The fusion of online techniques alongside traditional teaching signifies the progressive path toward the future of education.

Recommendation: The initiation of online education arose as a response to the ongoing COVID pandemic. While online teaching has historical roots in medical training, there's a pressing need to fortify and enhance this mode of instruction, ensuring students feel empowered and can derive greater benefits from it. To accomplish this goal, several steps can be taken:

Establishing Explicit Guidelines

Being Attentive to Home-related Concerns

Expect the unexpected and remain flexible.

Request regular feedback.

Declaration:

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Conflict of Interest: Nil

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